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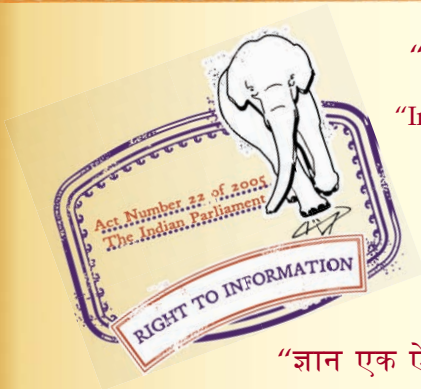
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IS 5468 (1993): Blanco [CHD 23: Lac, Lac Products and Polishes]



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“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
ब्लैन्को — विशिष्टि
(पहला पुनरीक्षण)
Indian Standard
BLANCO — SPECIFICATION
(*First Revision*)

UDC 667.821

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Polishes Sectional Committee had been approved by the Chemical Division Council.

Blanco is used for polishing/renovating webbings. The main consumers of this item are the Defence Services and Police Departments. It is generally marketed in the form of cake and is available in three colours, namely, white, khaki and olive green.

This standard was first published in 1969. In this revision, the requirement of mass and the method of test for soluble iron compound have been revised based on the experience gained during the last two decades.

The Committee responsible for the preparation of this standard is given at Annex C.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

BLANCO — SPECIFICATION

(First Revision)

1 SCOPE

1.1 This standard prescribes requirements and methods of sampling and test for blanco.

2 REFERENCES

2.1 The Indian Standards listed below are necessary adjuncts to this standard:

IS No.	Title
1070 : 1992	Reagent grade water (<i>third revision</i>)
2316 : 1968	Methods of preparation of standard solutions for colorimetric and volumetric analysis (<i>first revision</i>)
8171 : 1992	Glossary of terms relating to polishes and related materials (<i>second revision</i>)

3 TERMINOLOGY

3.1 For the purpose of this standard, the definitions given in IS 8171 : 1992 and the following shall apply.

3.1.1 Ambient Temperature

It is the temperature between 21 and 38°C.

4 TENDER SAMPLE

The supplier shall submit a tender sample of not less than six cakes, each packed in a cardboard box. The tender sample, if approved, shall serve as the standard for homogeneity, colour, ease of application and resistance to abrasion of the material and the nature and concentration of the fungicide, if any. In all other respects, the supplies shall conform to this specification.

NOTE — In case some fungicide is used, the sample of six cakes should be together with four cakes without any fungicide and 125 g of the fungicide used.

5 REQUIREMENTS

5.1 Description

The blanco shall be in the form of dry, neat, compact, firm and non-brittle circular cakes having a circular depression on the top surface and having a flat bottom surface. It shall be free from pits, gritty particles, cracks and offensive odour. It shall not contain any material deleterious to cotton fabric or likely to cause dermatitis.

5.2 Colours

The blanco shall be manufactured in conventional colours like white, khaki or olive green, or in any other colour as agreed to between the purchaser and the manufacturer.

5.2 Dimensions and Mass

Unless otherwise agreed to, the blanco shall be of the following dimensions and mass :

Diameter, cm	6.0 to 6.4
Height, cm	1.8 to 2.0
Mass, g	110 to 120

5.3 Homogeneity

The blanco shall be uniform in composition and shade and shall not exhibit presence of isolated particles of different colours.

5.4 Ease of Application

The blanco when rubbed with a wet rag or sponge with normal force and in the usual manner shall readily form a smooth unctuous paste with water suitable for quick and easy application on white webbing previously moistened with water. The cake shall not crumble while being rubbed.

5.5 Drying Time, Finish and Shade

The film produced by the application of the blanco on a piece of white webbing shall dry in not more than two hours at ambient temperature. The dried film shall be uniform, free from stickiness and greasiness, and its colour shall match that of a film of the approved tender sample (*see 4 and 5.2*) when prepared in the same manner and at the same time.

5.6 Resistance to Abrasion

When a piece of soft white cloth (for khaki and olive green) or black cloth (for white) is gently rubbed for ten times over a dried blanco film prepared as in 5.5, the film shall not show cracks or crumbles.

5.7 Firmness and Brittleness (Only for White)

The blanco, white, shall not break or crack when dropped on its flat surface from a height of 60 cm on an even cement or cement concrete floor.

5.8 Reaction of Aqueous Extract

5.8.1 For White

The aqueous extract of the blanco, white, shall not be acidic to methyl orange or alkaline to phenolphthalein when tested in the following manner.

Take 10.0 g of the powdered sample in 25 ml of distilled water, warm to 40°C and filter. Test 10-ml portion of the filtrate with methyl orange and phenolphthalein indicators separately.

5.8.2 For Other Colours

The pH of an aqueous extract of one percent suspension of the coloured blanco shall be between 6 and 8.

5.9 The blanco shall also comply with the requirements given in Table 1.

5.10 Keeping Quality

The blanco shall retain the properties specified in this standard for not less than two years from the date of manufacture when stored in original packages under cover at ambient temperature.

6 PACKING AND MARKING

6.1 Packing

Unless otherwise agreed to between the purchaser and the supplier, each cake shall be wrapped in suitable paper or suitable plastic material like polyethylene and then packed separately in a cardboard carton.

6.1.1 The filled cartons shall be packed in lots of 150 in suitable wooden cases, card board boxes or as agreed to between the purchaser and the supplier.

NOTE — Packing and marking for defence shall be as per CIM/SS/19(b), Specification for Blanco, white, khaki and Olive green.

6.2 Marking

6.2.1 Each cake shall be legibly embossed or stamped on top with the following information:

- a) Indication of the source of manufacture,
- b) Month and year of manufacture, and
- c) Batch number.

6.2.2 Each carton and wooden case shall also be legibly and indelibly marked with the following:

- a) Indication of the source of manufacture;
- b) Month and year of manufacture;
- c) Batch number; and
- d) The words (on cartons only):
'Moisten the webbing and apply with wet cloth'.

NOTE — Any other marking required under Weights & Measures (Packaged Commodities) Regulations 1977, may also be complied with.

7 SAMPLING

For the purpose of ascertaining the conformity of the material to this specification, representative samples shall be drawn as prescribed in Annex B.

8 TEST METHODS

8.1 Representative samples of the material shall be tested in accordance with the methods referred to in col 5 of Table 1.

8.2 Quality of Reagents

Unless specified otherwise, pure chemicals and distilled water (see IS 1070 : 1992) shall be used in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

Table 1 Requirements for Blanco

Sl No.	Characteristic	Requirements		Method of Test (Ref to Cl No. in Annex A)
		White	Coloured	
(1)	(2)	(3)	(4)	(5)
i)	Matter soluble in water, percent by mass, <i>Max</i>	5.0	3.0	A-1
ii)	Water soluble iron compounds (as Fe ₂ O ₃), percent by mass, <i>Max</i>	0.5	0.5	A-2
iii)	Loss on heating, percent by mass, <i>Max</i>	2.0	4.0	A-3
iv)	Stability test of cakes	Shall not crumble or powder after the test		A-4
v)	Susceptibility to fungal growth	No growth		A-5
vi)	Shower test	Pass the test		A-6

ANNEX A

(Table 1, and Clause 5.9)

METHODS OF TEST FOR BLANCO

A-1 DETERMINATION OF MATTER SOLUBLE IN WATER

A-1.1 Procedure

Mix about 10 g of the powdered sample, accurately weighed, with 200 ml of water, warm to 40°C, cool to room temperature and dilute to 250 ml. Shake the mixture thoroughly and allow it to settle. Filter the supernatant liquid repeatedly till a clear filtrate is obtained. Measure 100 ml of the clear filtrate in a tared silica basin and evaporate it to dryness on a steam-bath. Dry the residue in a steam-oven to constant mass, cool in a desiccator and weigh. Preserve the basin with the residue for further estimation.

A-1.2 Calculation

$$\text{Matter soluble in water, percent by mass} = \frac{250 W_1}{W}$$

where

W = mass, in g, of the material taken for the test; and

W_1 = mass, in g, of the dried residue.

A-2 DETERMINATION OF WATER SOLUBLE IRON COMPOUNDS

A-2.1 Reagents

A-2.1.1 Standard Potassium Permanganate Solution — 0.1 N (see 9 of IS 2316 : 1968).

A-2.1.2 Zimmermann-Reinhardt Solution

Add 140 ml of concentrated sulphuric acid and 140 ml of 85 percent phosphoric acid (*m/m*) to 720 ml of water. And 200 g of hydrated manganese sulphate ($\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$) to this solution and heat to dissolve. While the solution is still hot, add potassium permanganate solution (0.1 N) drop by drop with stirring till the persistent faint pink colour is obtained.

A-2.1.3 Dilute Hydrochloric Acid — 1:1 (*v/v*).

A-2.1.4 Stannous Chloride Solution

Dissolve by heating 60 g of pure stannous chloride in a mixture of 400 ml of concentrated hydrochloric acid and 600 ml of water. Cool, add a few pieces of granulated tin and preserve the solution in an airtight amber-coloured bottle to prevent oxidation.

A-2.1.5 Mercuric Chloride Solution

Prepare a saturated solution of mercuric chloride in water.

A-2.2 Procedure

Ignite gently the residue as obtained in A-1, dissolve it in 10 ml of dilute hydrochloric acid and transfer the

contents in a silica basin quantitatively and then to a beaker by washing the basin several times with about 100 ml of distilled water and collect washings in the beaker.

Heat the solution and bring to boil. Evaporate to 40 ml and add 5 ml of concentrated hydrochloric acid. Reduce the iron by adding stannous chloride solution in drops until the solution becomes colourless. Then add 2 to 3 drops in excess. Cool the solution rapidly to room temperature. Add 10 ml of mercuric chloride solution all at a time and stir thoroughly. A small amount of silky-white precipitate shall form slowly, indicating that slight excess of stannous chloride was present. Allow to stand for 2 to 5 minutes until no more precipitate appears to form. To the solution add 20 ml of Zimmermann-Reinhardt solution and dilute to 200 ml. Wash down the sides of the beaker and titrate with standard potassium permanganate solution to a faint pink end point which persists for 30 seconds.

A-2.3 Calculation

$$\text{Iron (as Fe}_2\text{O}_3\text{), percent by mass} = \frac{19.96 V N}{W}$$

where

V = volume, in ml, of standard potassium permanganate solution required to titrate test solution,

N = normality of standard potassium permanganate solution, and

W = mass, in g, of the material taken for the test.

A-3 DETERMINATION OF LOSS ON HEATING

A-3.1 Procedure

Accurately weigh 5 g of the powdered material in a tared squat weighing bottle and heat at $105^\circ \pm 2^\circ\text{C}$ to constant mass. Cool in a desiccator and weigh.

A-3.2 Calculation

$$\text{Loss on heating, percent by mass} = \frac{100 W_1}{W}$$

where

W = mass, in g, of the material taken for test; and

W_1 = loss in mass in grams of the material on heating.

A-4 STABILITY TEST

Compact blanco shall be kept at $105 \pm 2^\circ\text{C}$ for two hours in a petri dish. Subsequently the petri dish be kept in a desiccator, containing anhydrous Calcium

Chloride or Silica Gel as dehydrant, for 24 hours. The cake shall not crumble or powder after the test.

A-5 TEST FOR SUSCEPTIBILITY TO FUNGAL GROWTH

A-5.1 Test Organisms

A mixed spores suspension of the following fungi shall be used for charging the test sample:

1. *Aspergillus fusigatus*
2. *Chaetomium globosum*
3. *Helminthosporium asperum*
4. *Rhizopus nigricans*
5. *Aspergillus niger*
6. *Pullularia pullulans*
7. *Memnoniella echinate*
8. *Curvularia lunata*

A-5.2 Test Sample

The sample of blanco under test shall be broken into halves or preferably quarters so as to expose its interior also before spraying it with the mixed spores suspension.

A-5.2.1 A sample of blanco with no preservative in it shall also be used in the test and shall serve as control.

A-5.3 Procedure

Place the test sample uncovered in a petri dish of 12.5 cm diameter over a filter paper and a pad of cotton wool soaked in water. Charge with the mixed spores

and incubate the petri dish at $30 \pm 2^\circ\text{C}$ and 95 to 100 percent relative humidity for 14 days.

A-5.3.1 Treat the control sample similarly and incubate at the above temperature and relative humidity.

A-5.4 Results

At the end of the incubation period the test sample shall not show any sign of growth of fungi while the control sample shows profuse growth.

A-5.4.1 In case the control sample does not show profuse fungal growth, the test shall be repeated.

NOTE — Fungal growth will be considered as profuse when it covers not less than 75 percent of the surface area of the cake.

A-6 SHOWER TEST

Apply evenly a film of Blanco with a piece of wet rag or a sponge applicator on a piece webbing (10 cm × 5 cm) previously damped with water. Allow the film to dry for 24 hours at an ambient temperature, keep the treated webbing under a fine spray of water for 15 minutes through a metallic nozzle of 7.5 cm in diameter having 36 holes of 0.3 mm dia arranged concentrically and spaced equidistant. The water shall be sprayed at a pressure of approximately 0.14 kg per sq. cm. The height of nozzle bottom from the test specimen shall be 0.9 meter. The temperature of the water shall be not above 30°C . The film of Blanco applied on the piece of white webbing shall not be washed-off to such an extent as to leave the surface completely bare.

ANNEX B

(Clause 7)

SAMPLING OF BLANCO

B-1 GENERAL REQUIREMENTS FOR SAMPLING

B-1.0 In drawing, preparing, storing and handling test samples, the following precautions and directions shall be observed.

B-1.1 Samples shall be taken in a protected place not exposed to damp air, dust or soot.

B-1.2 Precautions shall be taken to protect the samples, the material being sampled and the containers for samples from adventitious contamination.

B-1.3 Samples shall be placed in clean, dry and airtight glass containers or other suitable containers on which the material has no action.

B-2 SCALE OF SAMPLING

B-2.1 Lot

All the cartons in a single consignment of the material drawn from the same batch of manufacture and of the same size shall constitute a lot. If a consignment is declared or known to consist of different batches of manufacture or of different sizes of containers, the containers belonging to the same batch and size shall be grouped together and each such group shall constitute a separate lot.

B-2.1.1 Samples shall be tested for each lot for ascertaining the conformity of the material to the requirements of this specification.

B-2.2 The number of cartons (n) to be chosen from a lot shall depend upon the size of the lot (N) and shall be in accordance with Table 2.

Table 2 Number of Cartons to be Selected

Lot Size		Number of Cartons To be Selected
<i>N</i>		<i>n</i>
Up to	500	10
501 to	1 000	15
Above	1 000	20

B-2.3 These cartons shall be chosen at random from the lot. In order to ensure the randomness of selection, some random number table as agreed to between the purchaser and the supplier shall be used. In case such a table is not available, the following procedure shall be adopted.

Arrange all the cartons in the lot in a systematic manner and starting from any carton, count them as 1, 2, 3, up to *r* and so on, where *r* is the integral part of N/n . Every *r*th carton thus counted shall be withdrawn to give sample for test.

B-3 PREPARATION OF COMPOSITE AND INDIVIDUAL TEST SAMPLES

B-3.1 Composite Sample

Take half of the cartons selected according to **B-2.3** for the preparation of composite sample. Break the cakes into quarters and select one quarter from each cake. Thoroughly powder and mix all the quarters drawn

from different cartons so as to form a composite test sample.

B-3.2 Individual Sample

The cakes in the remaining half of the carton selected according to **B-2.3** shall form the individual samples.

B-4 NUMBER OF TESTS

B-4.1 Tests for the determination of matter soluble in water, water soluble iron compounds and loss on heating shall be conducted on the composite sample.

B-4.2 Tests for all other characteristics shall be conducted on each of the individual samples.

B-5 CRITERIA FOR CONFORMITY

B-5.1 For Composite Sample

For declaring the conformity of the lot to the requirements for the characteristics tested on the composite sample, the test results obtained on the composite sample shall satisfy the relevant requirements given in Table 1.

B-5.2 For Individual Sample

For declaring the conformity of the lot to the requirements for the characteristics tests on the individual samples each of the test results obtained on the individual samples shall satisfy the corresponding requirements of the specification.

ANNEX C

(Foreward)

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices:

Telephone

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg
NEW DELHI 110002

{ 331 01 31
{ 331 13 75

Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola
CALCUTTA 700054

{ 37 84 99, 37 85 61
{ 37 86 26, 37 86 62

Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036

{ 53 38 43, 53 16 40
{ 53 23 84

Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113

{ 235 02 16, 235 04 42
{ 235 15 19, 235 23 15

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